

AN UNDESCRIBED SPECIES OF
MELANICHNEUMON THOMSON
FROM NEW JERSEY
(HYMENOPTERA: ICHNEUMONIDAE)*

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Recent collecting in the vicinity of Metuchen, New Jersey, has produced an undescribed species of *Melanichneumon* Thomson belonging to Heinrich's subgenus *Vulgichneumon* and therein closely related both to *M. (V.) brevicinctor* (Say) and to *M. (V.) saevus* (Cresson). I therefore give below a description of both sexes of this new species.

***Melanichneumon (Vulgichneumon) heleiobatos*, n.sp.**

TYPES: *Holotype*: female, Metuchen, New Jersey, June 28, 1964, in Museum of Comparative Zoology, Cambridge, Massachusetts. *Allotype*: male, Metuchen, New Jersey, June 29, 1964, Museum of Comparative Zoology, Cambridge, Massachusetts. *Paratypes*: four males, Metuchen, New Jersey, June 30, July 2, and July 3, 1964; one in Museum of Comparative Zoology, Cambridge, Massachusetts, three in the Porter Collection, Metuchen, New Jersey.

FEMALE: *Color*: black, shining, the following white: annulus, incomplete below, on flagellar segments 7 to 12 (in greater part); short, narrow mark on frontal orbit above; most of outer face of fore-tibia dully; a very large dorsal blotch on gastral tergites 6 and 7. Wings hyaline. *Flagellum*: moderately long and slender, very slightly attenuate toward apex; distinctly flattened below beyond middle; 31 segments, the first \pm 18 times as long as wide apically. *Head*: temple profile narrowed, a little curved; cheek profile narrowed, about straight. Malar space subequal to basal width of mandible. *Thorax*: mesoscutum finely and densely punctate, extensively micro-aciculate between punctures, rather weakly shining; scutellum highly polished, with sharp, well separated punctures, the lateral carinae distinct for about one half its length; pleura conspicuously shining with abundant but generally discrete fine to rather large punctures, mesopleuron with subadjacent to adjacent punctures and some longitudinal wrinkling mainly in lower hind quadrant — otherwise generally with distinct polished interspaces between the punctures, area immediately

*Published with the aid of a grant from the Museum of Comparative Zoology, Harvard College.

Manuscript received by the editor August 18, 1964.

below subalarum with a few punctures and rather weak wrinkling. *Legs*: hind-coxa without a clearly defined scopa, finely and densely punctate beneath. *Propodeum*: areolation sharp and complete; area superomedia distinctly a little longer than wide, considerably narrowed anteriorly, its surface highly polished, with only vague wrinkling; the rather large, strong punctures of area superoexterna (sparser) and area dentipara mostly well separated by polished interspaces. *Gaster*: median field of postpetiole discrete, with weak longitudinal striation and a few scattered, large punctures; gastrocoeli distinct but rather small and shallow, thyridium defined; second and third tergites strongly and densely punctured, the rest much more sparsely and weakly so; narrow anterior band on second tergite between gastrocoeli with distinct longitudinal striation in addition to punctures. *Length*: \pm 8.5 mm.

MALE: *Color*: black, the following white: maxillary palpi; mandibles except toward tips; clypeus; face; frontal orbits about to level of anterior ocellus; hind orbits on a little more than lower half of eye, broadly interrupted in malar space; most of scape beneath; collare in great part; pronotal ridge, broadly interrupted in front; scutellum except for a basal triangular area occupying about one-fourth its surface; subalarum except toward apex; outer face of fore femur toward apex and outer face of fore tibia dully; dullish area on outer face of mid-femur apically; most of gastral tergites six and seven conspicuously. *Wings* hyaline. *Flagellum*: 32 segments, bacilliform tyloides on segments 5 to 13. *Head*: malar space slightly less than half basal width of mandible. *Thorax*: generally as in female, punctuation slightly finer and sparser, the surface a little more shining; scutellum with lateral carina distinct basally for about one-third its length. *Propodeum*: area superomedia no longer than wide, horse-shoe shaped, its surface highly polished with obscure wrinkling; areae superoexternae and dentiparae polished with rather large but weak punctures and obscure wrinkling. *Gaster*: gastrocoeli rather broad and short, distinctly wider than long, considerably stronger and deeper than in female; central portion of second tergite between and to some distance behind gastrocoeli longitudinally striate; second and third tergites rather strongly punctured, fourth and following less strongly so. *Length*: \pm 9.5 mm.

VARIATION: the flagellum may have 33 or 34 segments; the lateral carinae of the scrutellum, in specimens before me, vary from being defined only at base to extending about half the length of the sclerite; area superomedia sometimes distinctly wider than long, its surface often more strongly wrinkled than described above — by no

means coarsely so; punctures of areae superoexternae and dentiparae often strongly defined, but generally discrete with highly polished intervals. The white markings, which are constant in location, vary only slightly in extent.

AFFINITIES: The female holotype will run directly to the couplet containing *M. brevicinctor* (Say) and *M. saevus* (Cresson) in Heinrich's key (Heinrich 1962) to the eastern Nearctic species of the subgenus *Vulgichneumon* Heinrich.

From *M. saevus* (Cresson) it differs in the frontal orbits which are only white for a short distance above; in the flagellar annulus on segments 7 to 12 rather than 6 to 14 or 15; in lacking all white maculation on the collare, apex of pronotal ridge, and scutellum; by reason of the 31 segmented flagellum [38 or 39 segments in *saevus* (Cresson)]; in the area superomedia which is distinctly longer than wide, and in its smaller size \pm 8.5 mm. as compared to 11-13 mm.

The female of *M. heleiobatos* displays also many points of distinction from that of *M. brevicinctor* (Say). As to color, there is the white line on the frontal orbit above, the black scutellum and black hind trochanters as compared to the black frontal orbits, wholly white scutellum, and white hind trochanter of *brevicinctor* (Say). Furthermore *heleiobatos* has a white macula on gastral tergites 6 and 7, *brevicinctor* (Say) only on 7. The lateral carinae of the scutellum, which in *brevicinctor* (Say) are only present at the extreme base, extend in *heleiobatos* almost half the length of the scutellum. The mesopleuron (and thoracic pleura in general) is much more shining and sparsely punctate than in *brevicinctor* (Say), where the surface is dull, closely punctured and extensively wrinkled, not only below but also above beneath the subalaum. The hind coxa is without a distinct scopa, whereas *brevicinctor* (Say) has a comparatively weak but easily visible and clearly delimited scopa. The surface of the areasuperomedia is smooth and polished with obscure wrinkles, while in *brevicinctor* (Say) it is completely reticulo-rugose. Likewise the areasuperoexternae and dentiparae are more shining and less closely punctured in *heleiobatos*. Finally, in the females of *brevicinctor* (Say) examined, the area between the gastrocoeli has much less tendency to longitudinal striation than in the present species.

The male may at once be distinguished from all eastern Nearctic species of *Melanichneumon* Thomson with mostly black abdomen by three characters in combination: no white flagellar annulus, black legs, prominent white marks on gastral tergites 6 and 7.

From the male of *saevus* (Cresson) this species is moreover distinct in its completely white clypeus and face, 32 to 34 segmented

antennal flagellum [as compared to 37 to 38 segments in *saevus* (Cresson)], and its smaller size ± 9 to ± 10 mm. as against 13 to 14 mm.

Heleiobatos is also very distinct from *brevicinctor* (Say) in the male. The white maculations are more extensive, *brevicinctor* (Say) being entirely black except for its white scutellum and mark on gastral tergite 7. In structure the most significant distinction concerns the gastrocoeli, which in *brevicinctor* (Say) are shallow and conspicuously longer than wide, whereas those of *heleiobatos* are a little wider than long and comparatively deep. The characters of scutellar carination and sculpture described for the female also apply in general for the male, although there are some specimens of *brevicinctor* (Say) in which the dorsal areae of the propodeum are almost as smooth as in many specimens of *heleiobatos*.

DERIVATION OF SPECIFIC NAME: *Heleiobatos* is a Greek adjective signifying "inhabitant of swamps".

TYPE LOCALITY: The type specimens were collected, all within a few yards of each other, at Metuchen, New Jersey, in a swampy area along the Lehigh Valley Railroad tracks just north of the bridge which carries the Reading Railroad across the Lehigh Valley.

The locality is along a very small stream draining a pond. It is overshadowed by *Salix discolor* and supports a moderately thick ground cover of various grasses and clumps of *Impatiens*. Like the abundant tenthredinid sawflies and such ichneumonid genera as *Cteniscus*, *Orthomiscus*, and *Smicroplectrus*, which are also found here, *M. heleiobatos* appears to be a species of particularly moist habitats. This is in contradistinction to its close relative, *M. brevicinctor* (Say), which occurs commonly in a wide range of habitats from woods to the margins of fields.

CONCLUSIONS: Unless it should turn out to be conspecific with some Palaearctic form, *M. heleiobatos* is an easily recognized new species distinct from its relatives by ample characters of color and structure. The association of sexes is, of course, only tentative, but appears logical both from characters displayed by the specimens themselves and from the fact that all examples were obtained within a very limited area where no other *Melanichneumon* of similar aspect has been taken.

REFERENCE

HEINRICH, G.

1962. Synopsis of the Nearctic Ichneumoninae Stenopneusticae, Part 5. Can. Ent. Suppl. 26: 578-634.